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Group identity as a source of threat and means of compensation:  
Establishing personal control through group identification and ideology

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## Abstract

Compensatory control theory proposes that individuals can assuage threatened personal control by endorsing external systems or agents that provide a sense that the world is meaningfully ordered. Recent research drawing on this perspective finds that one means by which individuals can compensate for a loss of control is adherence to ideological beliefs about the social world. This prior work, however, has largely neglected the role of social groups in defining either the nature of control threat or the means by which individuals compensate for these threats. In four experiments ( $N = 466$ ) we test the possibility that group-based threats to personal control can be effectively managed by defensively identifying with the threatened group and its values. We provide evidence for the specificity of these effects by demonstrating that defensive identification and ideology endorsement are specific to the content of the group-based threat.

**Keywords:** social identity, ideology, personal control, compensatory control, social mobility, national identification, meritocracy, egalitarianism

## Group identity as a source of threat and means of compensation: Establishing personal control through group identification and ideology

People generally expect they will be able to influence the world around them and thereby achieve desired outcomes (e.g., efficacy; Bandura, 1977). By perceiving themselves as having personal control, people are able to maintain a sense that the social world is well-ordered and predictable. Despite the importance of perceived personal control for positive psychological functioning (Kay, Sullivan, & Landau, 2014), these perceptions are occasionally challenged by chaotic or uncontrollable events. How do individuals manage these threats? Research commonly finds that when perceptions of personal control are threatened, people use external sources of order to compensate. As we review in detail below, researchers have found that individuals can turn to a wide range of targets capable of providing a feeling that the world is orderly and predictable.

Although research on how individuals compensate for threats to personal control has explored the possibility that social groups can serve as one source of compensation, it has not investigated the possibility that threats to control may *result from* membership in a social group nor how individuals might assuage these group-based threats to control. We investigate the extent to which certain ideological beliefs allow individuals to compensate for threats to control *based upon* being a member of a social group. We argue that when personal control is threatened as a result of membership in a valued social group, social identification processes can influence the selection, or rejection, of specific ideological sources for compensation as means of reaffirming perceived personal control.

### **Ideology and Compensatory Control**

We define ideology as *an interrelated set of values and beliefs about the structure of society that constitute a group's shared perspective* (Geertz, 1966; Remington, 1971). For example, shared ideologies on the efficiency of the “free market” can help people understand

and rationalize the current social structure (Thorisdottir, Jost, & Kay, 2009). Likewise, shared beliefs about social injustice among subordinate group members may promote interpretations of the social world that challenge the legitimacy of current social order (Haslam & Reicher, 2013; Mannheim, 1936). Whether ideology is employed to defend or challenge the status quo, ideologies offer group members a clear and structured understanding of the social world from their group's perspective. By doing so, ideologies help affirm that the social system is ordered and consistent rather than chaotic and unpredictable.

The idea that people need to see the social world as orderly has received renewed attention in psychology. Compensatory control theory (CCT) argues that individuals strive to perceive personal control over their environment as a means of meeting the greater goal of believing their world is meaningfully structured (Kay, Sullivan, & Landau, 2014). CCT proposes that one way individuals can reestablish perception of stability following a threat to their control is to align themselves with external agents of order and predictability. By reaffirming their belief that the external source of order has things well in hand, the individual is able to assuage the threat to their own control (Kay et al., 2008; Kay & Eibach, 2013; Kay, Sullivan, & Landau, 2014). Research from a CCT perspective has found substantial evidence in favor of this claim. For example, participants who suffered a threat to their personal control strongly endorsed the belief that God actively controls aspects of their lives, but parallel effects were not observed for other beliefs about God (e.g., the belief that God created the world; Kay et al., 2008). Additional studies have shown that threats to personal control result in greater adherence to governmental control (Kay et al., 2008), a national culture focused on law and order (Shepherd, Kay, Landau, & Keefer, 2011), belief in conspiracy theories (Whitson & Galinsky, 2008), faith in ordered origins of life theories (i.e., ordered evolution or ordered intelligent design; Rutjens, van der Pligt, & van Harreveld, 2010), and belief in the existence and power of one's enemies (Sullivan, Landau, &

Rothschild, 2010). Additionally, and important to our argument, research from this perspective has also found that when an individual's personal control is threatened, ideological beliefs can also operate as a means of reestablishing a sense that their environment is meaningfully ordered (Goode, Keefer, & Molina, 2014; Kay & Eibach, 2013). What unites these diverse findings is the central idea that when individuals feel that they lack control over their own lives, they can manage that threat by perceiving a meaningful ordering or pattern in the social world around them.

While research on CCT demonstrates that external social systems are appealing when personal control is lacking, it has relied on a strict dichotomy between the personal and the external. For example, many studies rely on a written threat induction that primes participants with personal experiences of a lack of control before measuring endorsement of external systems (e.g., Kay et al., 2008). However, there are many important contexts in which control threats cross these levels, blurring this prior theoretical boundary. In particular, we address the possibility that individuals may experience threats to personal control as a result of their membership in certain social groups. In such cases, group identity may be both a source of control threat and a means of assuaging that threat by offering ideologies that can provide a sense of social order. To explore this possibility, we turn to social identity theory (SIT), one of the most well-established perspectives on the psychology of groups. Specifically, we propose that when threats to personal control are based upon group membership, social identification processes will influence which external sources of compensation (e.g., ideology) are selected or rejected by the individual.

### **Social Identity Theory**

Identity (i.e., who an individual understands themselves to be) is a combination of both personal aspects (such as one's traits) and social aspects (such as one's profession). Social identity is the part of identity derived specifically from the social groups people find

meaningful (Tajfel & Turner, 1979; Turner, 1999). Rather than seeing these groups as simply a collection of people, social identity theory (SIT) argues that group memberships are psychologically meaningful identities that help define an individual's sense of self (Haslam, Ellemers, Reicher, Reynolds, & Schmitt, 2010).

Self-categorization theory (SCT) builds upon SIT to propose that as individuals navigate their social environment, they can think about themselves (i.e., self-categorize) as an individual person or as a member of a group. When the individual categorizes at the group level, they begin to think and behave as they believe a "typical" group member should. The group identity the person aligns with then becomes a filter for how they perceive and structure their interactions (Turner & Oakes, 1997).

**Group identity and norms.** When individuals identify with a group, the norms and values representing a group's accepted beliefs, emotions and behaviors (Hogg & Reid, 2006) are often internalized. For example, attitudes that bring the individual closer to enacting the group's prototype are more strongly endorsed (Abrams, Wetherell, Cochrane, Hogg, & Turner, 1990). One could imagine a new employee trying to fit into a new workplace by strongly endorsing shared values or beliefs among their co-workers (such as the company's mission statement). Self-categorization at the group level generates both a feeling of belonging and identification with others who share that group membership; as a result the individual thinks and feels in ways that are consistent with the group prototype. Because group prototypes are reflections of the group's perspective on social reality, those prototypes become the norms for how group members ought to act, feel and think in a given context (Hogg & Reid, 2006).

**Group identity and ideology.** The uncertainty-identity perspective has shown that increased identification with a social group leads to greater acceptance of the group's ideological beliefs and actions (i.e., authoritarianism; protests; Hogg, Meehan, &

Farquharson, 2010). For example, among highly identified Palestinians, more extremist ideological beliefs and behaviors pertaining to the Palestinian/Israeli conflict (i.e., use of suicide bombings to attack Israelis) were endorsed compared to those lower in identification. Likewise, Israeli participants who highly identify with their national group more strongly endorsed use of strong military tactics to combat the Palestinian forces. Individuals from both of these groups aligned themselves with greater adherence to ideological beliefs (held by a subset of the larger Palestinian and Israeli population) and support for actions reflecting their ideological stance (Hogg & Adelman, 2013).

Thus, research on social identity shows that the groups with which people identify influence the acceptance and expression of group normative beliefs and behaviors. When an individual heightens their identification with a social group, they interpret and interact with their social environment as they believe a group member would and should (Turner & Oakes, 1997). Yet what happens when an individual experiences a threat to their personal control based upon their group? Do they maintain adherence to their group's norms and beliefs or do they select any compensation source that is available to them?

### **Threats to the Self due to Social Group Membership**

Prior research has demonstrated that group-based threats commonly elicit group-based responses. For example, research typically finds that members *increase* their level of group commitment if the group's value is threatened. For instance, researchers found that threat (vs. affirmation) of a group's status resulted in higher group identification (Turner, Hogg, Turner, & Smith, 1984). Research on the rejection-identification model (Branscombe, Schmitt, & Harvey, 1999; Jetten, Branscombe, Schmitt, & Spears, 2001) has shown that that perceived prejudice, a threat to the value of one's group, similarly increases group identification. While perceived prejudice was found to have a direct negative effect on participant's personal well-being, the indirect effect of prejudice on personal well-being



through group identification was positive: Participants were able to assuage or compensate for a group-based threat to their well-being by increasing their group identification. Interestingly, individuals were able to compensate through group identification *even though* the threat to their well-being was based upon their group membership. These results suggest that group-based threats might affect group members at the personal level (i.e., personal wellbeing), yet at the same time promote greater group identification as a means of coping with that threat.

Based upon this work we predicted that a group-based threat to control could also affect individual group member perceived personal control, while at the same time promoting identification with that social group. This idea sheds light on a spectrum of threats to personal control that have gone neglected thus far in research on compensatory control. For example, members of devalued social groups often experience discrimination based on their group membership, a likely threat to the individual's sense of control over their personal outcomes. Likewise, national groups face threats from foreign aggression, a likely threat to the individual group member's sense of control over their safety. These examples illustrate that the dynamics of control threat and compensation must acknowledge the role of social groups, which can be both a source of threat and a means of compensation.

### **Overview of Current Studies**

We predicted that individuals would respond to group-based threats to personal control primarily by increasing their identification with the group implicated in that threat. This prediction follows directly from the research reviewed above showing that individuals commonly respond to group-based threats with increased identification with the threatened group.

Prior research on CCT and SIT converge on an additional prediction: increased identification with a social group is likely to lead to subsequent endorsement of ideologies prototypical of that group. Following CCT, we would expect this to occur because these ideologies provide a sense that the social world is meaningfully ordered (i.e., they compensate for lost personal control). Following SIT and SCT, we expect that group-based threats to control will increase ideology endorsement *specifically* as a function of increased identification because ideologies are group normative beliefs and identification often increases adherence to group norms.

Across four studies we tested this mediational hypothesis using the social group *Americans* and the group normative ideology meritocracy (which, as noted, effectively serves as a source of compensatory control; Goode et al., 2014). As an ideology, meritocracy offers a structured understanding of both success and failure in the economic sphere as the overarching economic system of distribution recognizes and rewards the merit of the successful individual while withholding undeserved rewards from those who have not yet earned them (Hochschild, 1995; Jackman, 1994; Kluegel & Smith, 1986).

Meritocracy is a normative ideology, given the majority of Americans believe in hard work as a primary tactic for economic success (PEW, 2012) and believe that the American economic system rewards merit (Hochschild, 1995). Despite the historical and current differences in the accessibility of opportunities across group lines, meritocracy has been a central ideology in most definitions of American beliefs and values (Feldman, 1983; Lipset, 1979). Thus, we use endorsement of meritocracy to operationally represent an ideology that is normative for a specific group (i.e., *Americans*).

In four studies we tested whether a group-based threat to personal control would: a) reduce individual perceptions of personal control; b) promote higher levels of group identification; c) promote greater adherence to a group normative ideology (i.e., meritocracy);

and d) following a group-based threat to control, compensation through identification and ideology would enable participants to reaffirm their personal control.

One goal of the present studies was to disentangle the specific effects of group-based control threat from other related group-based threats or threat-responses. As noted above, when self-certainty is lowered, people can reestablish certainty through ingroup identification and group-normative ideological beliefs. Similarly, threats to a group's value can lower collective self-esteem and motivate group members to show greater ingroup bias (Branscombe & Wann, 1994). Thus, a group-based control threat may increase identification through a loss of self-certainty or collective self-esteem rather than personal control.

Our account also suggests specificity with respect to how people compensate for a group-based control threat. Based on prior research, we anticipated that a group-based threat would be met by a group-based response. That is, if a control threat is based on a particular group, then identification with that group specifically (but not other social groups) should increase. Further, because ideology endorsement is a result of increased identification, we expected that participants should become more supportive of group normative (vs. non-normative) ideologies. Study 3 offers a test of both of these claims within one experimental design.

Lastly, drawing on CCT, we expected that identification and subsequent ideology endorsement would effectively restore perceptions of personal control, given that ideologies provide a sense that the world is ordered. In Study 3, we assessed personal control as an outcome of the process identified above. Specifically, we predicted that a group-based control threat would increase ideology endorsement as a function of greater group identification and that increased feelings of personal control would be the result of that specific process. We test this full model in Study 3.

## Study 1a

Study 1a tested whether group-based threats to control affect group members' perceived personal control. As a manipulation, we provided some participants with information that their group (*Americans*) has had a decrease (vs. an increase vs. a stable rate) in economic opportunities over time. The goal of the manipulation was to threaten participants' sense of control over their economic future *because* of the group they belong to. We subsequently assessed participant's perceptions of *personal* (i.e., individual) control.

## Method

**Participants.** One-hundred twenty-six residents of the United States (U.S.) participated via Amazon's Mechanical Turk online service for a small financial incentive (\$0.40). Two participants (2 men) were excluded from analysis due to their failure to complete over 50% of the study materials. The final sample ( $N = 124$ ; 52 women) ranged in age from 19 to 69 ( $M = 30.83$ ,  $SD = 10.23$ ). When asked to indicate their ethnicity, 76.6% self-categorized as White; 12.1% as Asian; 5.6% as Black; 4.8% as Latino(a); and 0.8% did not indicate their ethnicity.

**Group-based threat to personal control.** Participants were randomly assigned to view one of three fabricated reports ostensibly from the United States (U.S.) Department of Labor describing individual economic mobility rates for American citizens over 3 decades (1980 - 2010). In the *group-based control threat* condition participants saw a graph showing rates of opportunities to make more money than previous generations as decreasing over the last thirty years. The accompanying text emphasized that over time Americans have had fewer opportunities for success and, as a result, they have less control over their economic outcomes.

Participants in the *group-based control affirmation* condition participants saw a graph showing rates of opportunities to make more money than previous generations as increasing over the last thirty years. The accompanying text emphasized that over time Americans have enjoyed greater opportunities for success and, as a result, they have more control over their economic outcomes. The graphs in both conditions illustrated the same rate of change over time (positively or negatively).

Participants in the *neutral* condition saw a graph showing only minor fluctuations (up and down) in the rates of opportunities to make more money than previous generations over the last 30 years. This graph gave the impression that rates had remained stable over time (and indeed the graph begins in 1980 and ends in 2010 at the same level). The accompanying text emphasized that Americans have had relatively stable rates of opportunity for success over time.

**Perceived personal control.** To assess perceptions of *personal* control, we asked participants to rate their agreement with 6 items modified from the Mastery Scale (Pearlin et al., 1981): “I feel that I have a great degree of control over what happens to me in my life;” “I feel a high sense of personal control over my life;” “I often feel helpless in dealing with the problems of life” (reverse scored). Participants rated their agreement with these (and all subsequent) statements using a 7-point scale (1 = *Strongly Disagree*; 7 = *Strongly Agree*). These items formed a reliable composite ( $\alpha = .84$ ) and scores were averaged.

## Results and Discussion

We conducted a one-way ANOVA on perceived personal control ( $M_{grand} = 4.68$ ,  $SD_{grand} = 1.07$ ) to examine the impact of our experimental manipulation. Analysis indicated a significant main effect of condition,  $F(2, 121) = 6.97$ ,  $p = .001$ ,  $\eta^2 = .10$ , with participants in the *group-based control threat* condition indicating lower perceived personal control ( $M = 4.20$ ,  $SD = 1.11$ ) compared to participants in the *group-based control affirmation* condition

( $M = 4.93$ ,  $SD = 1.06$ ,  $p = .002$ ) and participants in the *neutral* condition ( $M = 4.92$ ,  $SD = .88$ ,  $p = .002$ ). The latter two conditions did not differ ( $p = .97$ ).

Study 1a showed that information threatening *group-based* control decreased participants' perceptions of *personal* control. Specifically, participants who received information showing declining (vs. increasing or stable) opportunities for Americans perceived themselves as having less personal control. However this study does not rule out alternative effects of our prime. It is possible that our prime also affects self-certainty and/or collective self-esteem, two constructs closely related to identity (Branscombe & Wann, 1994; Luhtanen & Crocker, 1992; Turner, Hogg, Turner, & Smith, 1984) and ideological beliefs (Hogg, Meehan, & Farquharson, 2010).

### Study 1b

Study 1b was designed to verify that our group-based threat prime impacts perceived personal control without altering perceptions of self-certainty or collective self-esteem. Using the experimental primes for the *group-based control threat* and *neutral* conditions<sup>1</sup> from Study 1a, we presented participants with measures of personal control, self-certainty, and collective self-esteem (with order of the measures randomized), and then assessed degree of national identification. We expected the group-based control threat to impact perceived personal control but not self-certainty or collective self-esteem. Furthermore, we expected decreased perceived personal control to mediate the effect of the group-based control threat on increased national identification.

### Method

**Participants.** One-hundred forty (67 women) residents of the U.S. were recruited for participation via Amazon's Mechanical Turk online service for a small financial incentive (\$0.40). Nine participants (5 women, 4 men) were excluded from analysis due to their failure

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<sup>1</sup> We only used the threat and neutral conditions from Study 1a in order to preserve power to test the discriminant validity of our manipulation's effect on our dependent variables.

to complete over 50% of the study materials. The final sample ( $N = 131$ ) ranged in age from 19 to 70 ( $M = 34.32$ ,  $SD = 11.31$ ). When asked to indicate their ethnicity, 77.5% self-categorized as White; 9.3% as Black; 6.2% as Asian; 5.4% as Latino(a); and 1.6% did not indicate their ethnicity.

**Group-based threat to personal control.** Participants were randomly assigned to view either the *group-based control threat* or the *neutral* priming materials from Study 1a.

**Perceived personal control.** Personal control was assessed using the same items from Study 1a ( $\alpha = .78$ ).

**Self-certainty.** Self-certainty was measured using 6 items (Hohman & Hogg, 2015). For example; “I have a clear understanding of my personality;” “I know my place in the world;” and “I am uncertain about what my future holds (R).” These items formed a reliable measure of self-certainty ( $\alpha = .73$ ).

**Collective self-esteem.** Collective self-esteem was measured using 4 items modified from the Public subscale of the Collective Self-Esteem Scale (Luhtanen & Crocker, 1992). Items included; “Overall, America is considered good by others;” “Most people consider America, on average, to be more ineffective than other countries (R);” “In general, others respect America;” and “In general, others think that America is unworthy (R).” These items formed a reliable composite ( $\alpha = .79$ ) and scores were averaged.

**National Identification.** National identification was measured using 4 items modified from the patriotism subscale of the national attachment measure (Sidanius, Feshbach, Levin, & Pratto, 1997): “I often think of myself as a member of America;” “Being American is important to me;” “I am proud to be an American;” and “I find the sight of the American flag very moving.” These items formed a reliable scale ( $\alpha = .79$ ) and scores were averaged.

## Results and Discussion

See Table 1 for descriptives and correlations between variables. A one-way ANOVA was performed to determine the impact of condition on *perceived personal control*, *self-certainty*, and *collective self-esteem*. Analysis revealed a significant effect of condition on *personal control*,  $F(1, 129) = 5.03, p = .02, \eta^2 = .04$ , with participants in the *group-based control threat* condition indicating less perceived personal control ( $M = 5.07, SD = 0.93$ ) than participants in the *neutral* condition ( $M = 5.42, SD = 0.77$ ). Analysis revealed no significant effect of condition on *self-certainty*,  $F(1, 129) = 0.592, p = .44$ ; participants in the *group-based control threat* condition ( $M = 5.32, SD = 0.99$ ) indicated similar levels of *self-certainty* as participants in the *neutral* condition ( $M = 5.20, SD = 0.90$ ). Likewise, analysis revealed no significant effect of condition on *collective self-esteem*,  $F(1, 129) = 0.575, p = .45$ ; participants in the *group-based control threat* condition ( $M = 4.33, SD = 1.14$ ) indicated similar levels of *collective self-esteem* as participants in the *neutral* condition ( $M = 4.48, SD = 1.12$ ).

We conducted a one-way ANOVA to investigate the effect of experimental condition on level of national identification. Analysis revealed a significant effect of condition,  $F(1, 129) = 4.44, p = .03, \eta^2 = .03$ , with participants in the *group-based control threat* condition ( $M = 4.66, SD = 1.30$ ) reporting higher national identification than participants in the *neutral* condition ( $M = 4.18, SD = 1.28$ ).

### **Indirect Effects**

We then tested whether higher levels of national identification in the *group-based control threat* condition could be accounted for by decreased perceived control. Using model 4 of the Process macro for SPSS (ten-thousand bootstrapped resamples; Hayes, 2013), we regressed national identification onto experimental condition (dummy coded: 0 = *neutral* and 1 = *group-based control threat*) and entered perceived personal control as the proposed



mediator. Contrary to our expectations, the model was not significant, indirect effect = -0.12,  $SE = 0.17$  [-0.45, 0.21]

Study 1b provided partial evidence for our predictions. On one hand, our group-based threat to personal control decreased perceived personal control without affecting participant's perceptions of self-certainty or collective self-esteem. Replicating the effects of Study 1a, we found that those who read about declining rates of opportunity in America felt less personal control than those who read about stable rates of opportunity. On the other hand, Study 1b did not provide evidence that a loss of personal control directly accounted for the effect of our prime on national identification. We found that the group-based control threat decreased personal control and increased national identification, however mediational analysis did not support our contention that an increase in identification following our group-based threat was specifically due to a loss of personal control and we discuss this issue in greater detail in the General Discussion.

## Study 2

In Study 2 we sought to extend our observed effects of a group-based threat on personal control and national identity. We expected that a group-based control threat would increase group identification and that group-based threat would increase adherence to a group-normative ideology as a way of compensating for this threat. Finally we expected that increased support for ideology would be due in part to greater group identification. To test the hypothesized direction of effects, we included all experimental conditions used in Study 1a.

## Method

**Participants.** All participants successfully completed the study materials and the final sample included 90 (39 women) U.S. residents. Participants accessed the study through Amazon's Mechanical Turk and they received a small financial incentive (\$0.40). The sample ranged in age from 19 to 68 ( $M = 35.42$ ,  $SD = 13.84$ ). When asked to indicate their ethnicity,

77.8% self-categorized as White; 12.2% as Asian; 4.4% as Black; 3.3% as Latino(a); and 2.3% did not indicate ethnicity.

**Group-based control threat.** Participants were randomly assigned to either the *group-based control threat*, *group-based control affirmation*, or *neutral* conditions used in Study 1a.

We added one item to ensure comprehension of the article. Specifically, participants were asked to correctly identify the direction of individual mobility rates in the graph they saw during the prime. They were asked to choose from four options; “going up,” “going down,” “staying the same” or “I don’t remember.” Analysis indicated that the majority of participants (92%;  $N = 83$ ) correctly identified the graph trend in their condition,  $\chi^2(4) = 142.32, p < .001$ . All participants were included in the following analyses as excluding the 7 who failed the manipulation check did not alter the pattern or significance of the results reported below.

## Measures

**National identification.** We used the same four-item measure of national identification as in Study 1b. These items were averaged and again formed a reliable measure of national identification ( $\alpha = .87$ ).

**Meritocracy.** Six items were modified from the capitalist values scale (McClosky & Zaller, 1984) to measure meritocracy endorsement. For example, “Anyone who is willing to work hard has a good chance of succeeding”; “If people work hard enough they can make a good life for themselves”; “Hard work offers little guarantee of success” (reverse scored). These items were averaged and formed a reliable measure ( $\alpha = .85$ ).

## Results

A one-way ANOVA was conducted to investigate the impact of condition on national identification ( $M_{grand} = 4.71, SD_{grand} = 1.22$ ). Analysis revealed a significant effect,  $F(2, 87) =$

3.20,  $p = .04$ ,  $\eta^2 = .12$ , with participants in the *group-based control threat* condition reporting higher levels of national identification ( $M = 5.20$ ,  $SD = 1.05$ ) than participants in the *group-based control affirmation* condition ( $M = 4.47$ ,  $SD = 1.18$ ,  $p = .02$ ) or participants in the *neutral* condition ( $M = 4.54$ ,  $SD = 1.29$ ,  $p = .03$ ). The latter two conditions did not differ ( $p = .81$ ).

We next conducted a one-way ANOVA on meritocracy scores ( $M_{grand} = 4.15$ ,  $SD_{grand} = 1.19$ ) to determine the impact of condition. Analysis indicated a significant effect,  $F(2, 87) = 6.33$ ,  $p = .00$ ,  $\eta^2 = .13$ , with participants in the *group-based control threat* condition endorsing meritocracy significantly more ( $M = 4.81$ ,  $SD = 1.19$ ) than individuals in the *group-based control affirmation* condition ( $M = 3.91$ ,  $SD = 1.23$ ,  $p = .003$ ) or those in the *neutral* condition ( $M = 3.85$ ,  $SD = .95$ ,  $p = .002$ ). The latter two conditions did not differ ( $p = .83$ ).

### Indirect Effects

We then tested whether higher levels of national identification in the *group-based control threat* condition accounted for higher levels of meritocracy endorsement. Using model 4 of the Process macro for SPSS (ten-thousand bootstrapped resamples; Hayes, 2013), we regressed meritocracy onto experimental condition (dummy coded: 0 = *group-based control affirmation/neutral* and 1 = *group-based control threat*) and entered national identification as the proposed mediator. As seen in Figure 2, the group-based threat to control increased national identification, which in turn increased meritocracy endorsement, indirect effect = 0.21,  $SE = 0.11$ , 95% CI = (.05, .49).<sup>2</sup>

### Study 2 Discussion

<sup>2</sup> Testing an alternative model with meritocracy as a proposed mediator for the effect of condition on national identification also produced a significant result, indirect effect = 0.30,  $SE = 0.14$ , 95% CI = .08, .66.

Testing separate mediation models comparing our *group-based control threat* condition to both the *group-based control affirmation* and the *neutral* conditions separately also yielded significant models, indirect effect = 0.17,  $SE = 0.09$ , 95% CI = .04, .41 and indirect effect = 0.19,  $SE = 0.094$ , 95% CI = .05, .32, respectively. We report the collapsed comparison for simplicity.

Study 2 showed that when participants experienced a drop in their perceived control as a result of a group-based threat, they responded with greater identification with their national group and greater endorsement of a shared group ideology. Furthermore, increased group identification mediated the effect of the threat on meritocracy endorsement.

However, the results of Study 2 cannot address several alternatives. First, the mediation model, while statistically significant, cannot rule out the possibility that it is actually ideological endorsement that mediates the effect of threat on social identity. Due to the significance of the alternative model, it is plausible that a group-based threat to control increases ideological endorsement, and that ideological endorsement in turn increases group identification. Fritz and MacKinnon's (2007) guidelines (and the results of Study 2) suggest a sample larger than 115 would be needed to accurately test our proposed mediation model.

Therefore to directly assess this alternative theoretical argument, in Study 3 we increased our sample size to 121 participants so as to have sufficient statistical power to allow for an accurate test of both mediation models simultaneously.

Secondly, it is possible that individuals might increase identification with *any* group in response to loss of personal control. Prior research supports the idea that individuals can find a sense of control through identification with various valued social groups (Greenaway et al., 2015), so it is possible that participants could identify with any group after a threat to personal control. In contrast, we predict that a threat to control based on a person's membership in a specific group (in this case, Americans) will uniquely increase identification with *that* group rather than any group available to them (e.g., religious groups).

Third, we maintain that meritocracy endorsement is specifically due to increased identification with the group *Americans*, although previous studies cannot rule out the possibility that meritocracy endorsement could be elicited by identification with other groups as well. To provide discriminant validity for our group-specific ideology model, it is crucial

to demonstrate that compensatory endorsement of meritocracy increases as a function of national identification (for which meritocracy is a salient in-group norm), but not other social identities.

Fourth, previous research (Goode et al., 2014) has relied on the assumption that national identity increases endorsement of meritocracy because this ideology is a prototypical group belief system. However, national identification may also increase alternative, less normative economic ideologies (e.g., equality of outcomes). Although we do not expect such an effect, the existing data have not addressed this possibility.

Finally, the studies thus far have not tested whether a compensatory increase in meritocracy endorsement is an effective method of restoring personal control. While we found that individuals showed an increase in identification and meritocracy (as a function of that identification), evidence that endorsing meritocracy actually increases participants' feelings of control would be valuable. Although this prediction is not commonly addressed in research on compensatory control, with Study 3 we sought to directly test the effectiveness of compensation on control restoration.

### Study 3

Study 3 was designed to address our theoretical account while ruling out alternatives. First, we tested whether threats to personal control related to one's membership in a social group can increase identification with that group specifically, and not simply any salient group. To test this prediction, we randomly assigned participants to the same group-based control threat (vs. neutral) conditions used in the previous studies and then assessed their level of identification with *Americans* as well as alternative social group identities (e.g., gender, religious group).

According to our argument, any compensatory increase in meritocracy as a result of a group-based control threat would be due to an increase in national identification, because this

ideology is a central group norm for *Americans*. While the previous studies supported that contention, Study 3 goes beyond these studies by testing whether national identification specifically (vs. other group identities) accounts for this increase in meritocracy. We tested this possibility using multiple mediation analysis (Hayes, 2012), which allows us to test competing mediators simultaneously. We expected that national identification, but not other group identities, would account for increased meritocracy endorsement.

Additionally, we expected that national identification would increase meritocracy, but it would not increase other, non-normative, economic ideologies. In order to compare meritocracy to other ideologies, we included an assessment of egalitarianism (i.e., valuing equality of outcomes) after measuring identification with national and other groups. We expected that increased national identification would subsequently increase endorsement of meritocracy (as we found in the previous studies) but not egalitarianism.

Finally, participants completed a measure of perceived personal control at the end of the study to assess the degree to which meritocracy endorsement in response to a group-based control threat resulted in increased feelings of personal control. By measuring each of these constructs, a full test of our process argument was possible. Specifically, we expected a threat to personal control based upon being an *American* to increase meritocracy through national identification and that this process would subsequently restore feelings of personal control. We tested this full model using a sequential mediation analysis that tested for an indirect effect of condition on perceived personal control as a function of national identification (mediator 1) and meritocracy endorsement (mediator 2; Hayes, 2013). We also compared this sequential mediation model to alternative models to test the validity of our account of the relationships between these outcomes.

## Method

**Participants.** All participants completed all study materials and our sample consisted of 121 (55 women and one non-response) U.S. residents. Participants completed the study via Amazon's Mechanical Turk for a small financial incentive (\$0.40). The sample ranged in age from 19 to 68 ( $M = 35.42$ ,  $SD = 13.84$ ). The majority of participants (71.7%) indicated their ethnicity as White; 13.2% as Black; 9.1% as Asian; 3.3% as Latino(a); and 2.5% did not respond to the ethnicity question.

**Group-based control threat.** Participants were randomly assigned to view either the *group-based control threat* or the *neutral* manipulation from the previous studies.

**Group identification.** Each participant filled out measures assessing their identification with the 1) nation, 2) their gender group, and 3) their religious group. The order of presentation of these identification measures was counterbalanced to control for order effects. Each identity measure consisted of 6 items modified from the identity subscale of the collective self-esteem scale (Luhtanen & Crocker, 1992) and were worded the same with only the social group changing across measures. For example, "Being an American [woman/man; member of my religious group] is an important reflection of who I am." These items formed reliable identification scales (national identification  $\alpha = .95$ ; gender identification  $\alpha = .96$ ; religious group identification  $\alpha = .93$ ) and scores on the items for each group were averaged.

**Ideological endorsement.** Each participant filled out measures of both meritocracy and egalitarianism (framed as a belief in equality of outcomes) with order of presentation counterbalanced. Meritocracy was measured using the same 6 items from Studies 1b and 2. These items formed a reliable composite ( $\alpha = .92$ ). Egalitarianism was measured using 6 items from both the egalitarianism and inegalitarianism scale (Klugel & Smith, 1986) and the American national election studies egalitarianism scale (Feldman, 1988). For example, "There should be more focus on equality of outcomes in today's society;" "If people were

treated more equally in this country we would have many fewer problems;” “Incomes should be more equal, because everybody’s contribution to society is equally important.” These items formed a reliable egalitarianism scale ( $\alpha = .88$ ).

**Perceived personal control.** Perceived personal control was measured using the same 6 items from Study 1a. These items formed a reliable composite ( $\alpha = .89$ ) and scores were averaged. See Table 2 for a complete list of correlations among the measures.

## Results

### Group Identification

See Table 2 for a complete list of descriptives and correlations amongst variables. A MANOVA was conducted to assess the multivariate effect of condition on group identity. Results indicated a significant effect,  $F(3, 116) = 4.29, p = .007$ , Wilk’s  $\Lambda = .90$ . Each identification measure was then subjected to a one-way ANOVA to determine the impact of condition. For *national identification*, the analysis revealed a significant effect,  $F(1, 119) = 11.49, p = .001, \eta^2 = .09$ , with participants in the *group-based control threat* condition indicating higher levels of national identification ( $M = 4.77, SD = 1.34$ ) than participants in the *neutral* condition ( $M = 3.81, SD = 1.76$ ). There was not a significant effect of condition on *gender identification*,  $F(1, 119) = 0.47, p = .50$ ; participants in the *group-based control threat* condition reported similar levels of gender identification ( $M = 5.32, SD = 1.46$ ) as participants in the *neutral* condition ( $M = 5.14, SD = 1.55$ ). There was also no significant effect of condition on *religious group identification*,  $F(1, 119) = 0.50, p = .82$ ; those in the *group-based control threat* condition reported similar levels of religious identification ( $M = 3.85, SD = 1.96$ ) as participants in the *neutral* condition ( $M = 3.93, SD = 2.04$ ).

### Ideological Endorsement

A MANOVA analysis was conducted to determine the multivariate effect of condition on ideology endorsement. Results indicated a significant effect,  $F(2, 118) = 4.81, p = .01$ ,



Wilk's  $\Lambda = .93$ . Each ideology measure was then subjected to a one-way ANOVA to assess the effect of condition. For *meritocracy*, the analysis revealed a significant effect,  $F(1, 119) = 9.11, p = .003, \eta^2 = .07$ , with participants in the *group-based control threat* condition endorsing higher levels of meritocracy ( $M = 4.51, SD = 1.41$ ) compared to participants in the *neutral* condition ( $M = 3.72, SD = 1.46$ ).

We next examined our prediction that *national (vs. alternative) identification* would account for this compensatory increase in *meritocracy* endorsement. To test this, we conducted a multiple mediation analysis of the effect of condition on meritocracy with the three measured identities treated as potential mediators. The results indicated that *national identification* mediated the effect of condition on *meritocracy*, indirect effect = 0.34,  $SE = 0.14$ , 95% CI = .14, .68, but that *gender identification*, indirect effect = 0.006,  $SE = 0.03$ , 95% CI = -.04, .22, and *religious identification*, indirect effect = -0.03,  $SE = 0.05$ , 95% CI = -.18, .10, did not.

In contrast, we observed no effect of condition on *egalitarianism*,  $F(1, 119) = 0.16, p = .69$ . Participants in the *group-based control threat* condition ( $M = 4.84, SD = 1.49$ ) did not significantly differ from participants in the *neutral* condition ( $M = 4.95, SD = 1.38$ ).

Furthermore, *egalitarianism* was negatively correlated with *national identification*,  $r = -.25, p = .007$ , and unrelated to both *gender identification*,  $r = -.007, p = .94$ , and *religious identification*,  $r = -.085, p = .36$ .<sup>3</sup>

### Personal Control

Finally, we tested whether increased *meritocracy* as a function of *national identification* would subsequently increase *perceived personal control*. First, we found that *perceived personal control* was higher for those participants in the *group-based control*

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<sup>3</sup> Due to men's high status position within the U.S. and the fact that meritocracy can work to legitimize that status (Jackman, 1994; Sidanius & Pratto, 1999) it may be that greater endorsement of meritocracy in the threat condition was driven by men's identification with that group. The results did not support this view; specifically, gender did not moderate the effect of experimental condition on national identification,  $p = .40$ ; meritocracy,  $p = .63$ ; or personal control,  $p = .51$ .

*threat* condition ( $M = 5.10$ ,  $SD = 1.20$ ) compared to the *neutral* condition ( $M = 4.42$ ,  $SD = 1.19$ ;  $F(1, 119) = 8.20$ ,  $p = .005$ ,  $\eta^2 = .06$ ). Was compensatory meritocracy endorsement responsible for this difference? To address this question, we conducted a sequential mediation analysis testing whether the observed mediation model in which the threat to group-based control manipulation increased meritocracy as a function of national identification led to a subsequent indirect effect on feelings of personal control. In other words, we expected the effect of the *group-based control threat* on *perceived personal control* to be a function of increased *national identification* (M1) and increased *meritocracy* (M2).

### **Mediation by National Identification and Meritocracy in Sequence**

Using model 6 of the PROCESS macro for SPSS (ten-thousand bootstrapped resamples; Hayes, 2013) we regressed perceived personal control onto condition (dummy coded: *neutral* = 0 and *group-based control threat* = 1) and entered *national identification* and *meritocracy* as sequential mediators. As seen in Figure 3, the *group-based control threat* increased *national identification*, which in turn increased *meritocracy*. The sequential indirect effect of condition on *perceived personal control* through *national identification* and *meritocracy* was significant, indirect effect = 0.14,  $SE = 0.06$ , 95% CI = .05, .31.

Furthermore, the two simple mediation pathways, one testing *national identification* as the sole mediator (indirect effect = -0.004,  $SE = 0.07$ , 95% CI = -.13, .16) and the other testing *meritocracy* as the sole mediator (indirect effect = 0.19,  $SE = 0.12$ , 95% CI = -.02, .47), were not significant in the multivariate model. Switching the sequence of mediators in the model so that *meritocracy* preceded *national identification* also resulted in a non-significant model, indirect effect = -0.001,  $SE = 0.03$ , 95% CI = -.05, .06.

## Discussion

Study 3 provided clear support for our predictions. We observed, as our theorizing predicts, that a threat to personal control based upon membership in the group *Americans* resulted in an increased identification with this group specifically (but not other group identities). Additionally, this increase in group identification has unique implications for ideology: participants in the group-based control threat (vs. neutral) condition demonstrated a marked increase in meritocracy endorsement and this effect was due specifically to increased national identification. Indeed, we saw that the effects of the group-based control threat on ideological endorsement were group-specific: participants increased endorsement of group normative, meritocratic ideology, but not counter-normative egalitarian ideology.

This study provides the first evidence that compensatory endorsement of meritocracy increases feelings of personal control. While other research on compensatory control has shown that control threat leads to increased endorsement of external systems or beliefs, our research explains why people endorse such beliefs (identification) and provides a clear demonstration of the effectiveness of this compensatory endorsement by demonstrating its consequences for restoration of personal control.

## General Discussion

We provide the first examination of how individuals can manage a group-based threat to personal control. In Study 1a we established that a threat to control based upon group membership lowers perceptions of personal control. We then showed that our group-based threat to control uniquely undermined personal control, but not self-certainty or collective self-esteem, and that this manipulation also increased levels of identification with the specific threatened group (Study 1b). We next showed that increased adherence to a group normative ideology after a group-based threat to personal control stems specifically from increased identification with the group (Study 2). In Study 3 we found that participants did not increase

identification with any social group presented to them, nor did they increase adherence to any ideology. As predicted, we found that participants effectively reestablished a sense of personal control through identification and ideological endorsement specific to the group that was the *source* of a group-based control threat. These effects place social identity and self-categorization processes at the core of compensatory processes involved in maintaining personal control.

### **Limitations and Future Directions**

While the results of these studies are compelling, there are important limitations that should be addressed in future research. In Study 1b we failed to find direct evidence that the effect of our manipulation on national identification could be accounted for through perceived personal control, thus we cannot confirm the role of personal control in fully explaining the effect of threat on identification. While our theoretical argument proposes that threatened control is the cause of identification, and identification the cause of ideology endorsement, our data suggest that the relationships may be more complex. We did find that the group-based control threat decreased personal control and increased identification (Study 1b), however perceived personal control was positively associated with identification in both experimental conditions (replicating prior research; Greenaway et al., 2015). It is possible that a more complex longitudinal model would be necessary to disentangle the roles of personal control and identification. One way to achieve a test of this question would be to test whether the association between control and group identification is different before (vs. after) the experience of a control threat. On the basis of past research, we would anticipate that prior to (or in the absence of) any threat, these variables will be highly correlated. In contrast, we might expect that following a threat, those individuals who experience a high degree of threat will show a dramatic increase in group identification. This would weaken the relationship between the two variables by shifting identification scores up among low control

participants. It may even result in a quadratic distribution with the highest identification scores at both the low and high ends of the distribution of control scores. Unfortunately, the current studies do not allow for a full test of this possibility, and it is somewhat at odds with the more simplistic mediational account tested in Study 1b.

Another possibility is that that we are simply mistaken in our assumption that a loss of control drives the effects we have observed in the present studies. While the current studies broadly support our account, it is plausible that some other variable is driving the effects of our threat manipulation on identification and ideology endorsement. While Study 1b suggests that this variable is unlikely to be self-certainty or collective self-esteem, the effects of our group-based control threat prime may extend to other variables, such as feelings of uncertainty about the future or the perception that a valued ingroup is the victim of some injustice. If these variables are the proximal explanation for the effects of prime on identification, then our observation of increased personal control following ideological endorsement (Study 3) might actually be a secondary effect rather than evidence of a control compensation process.

We have argued in this paper that the target of the group-based threat (e.g., Americans) directly increased identification with that group and in turn dictated the ideology endorsed as a source of compensation. However, because each study used a threat to the same group (i.e., *Americans*) in the same context (*economics*), we cannot rule out the possibility that participants increased their identification with the nation because meritocracy is associated with America *and* this is the most useful ideology to deal with economic threat. We have relied on a SIT/SCT framework that predicts that a threat to a specific group will lead to increased identification with that group, and as such a greater adherence to the group's beliefs (Branscombe, Schmitt, & Harvey, 1999; Jetten, Branscombe, Schmitt, & Spears, 2001; Turner, Hogg, Turner, & Smith, 1984). However, work within CCT has shown that

threats to personal control at an individual (vs. group-based) level can increase adherence to ideology (Friesen, Kay, Eibach, & Galinsky, 2014; Goode et al., 2014). Therefore we cannot rule out the possibility that a threat to a different social group such as *college students*, based upon their economic future, might not also increase identification with *Americans* and adherence to meritocracy. In other words, it may be that the need to deal with a threat to one's personal economic future dictates the group (and ideology) for compensation, rather than the group targeted in the threat itself. Future work will need to more thoroughly parse out the relationship between the group implicated in the threat, and the group and ideology chosen as sources of compensatory control.

We also did not investigate potential moderation effects of identification on how group members experience and respond to personal control threats that are based upon their social group. While we observed a reliable main effect of threat condition on group identification, had we measured identification *before* the threat we might have seen differences between those who highly identify with the group *Americans* and those who do not. For example, defensively increasing group identification after a threat is more typical of highly identified group members rather than lowly identified group members. Those group members who do not initially value their social identity often distance themselves from the group and its norms following a threat (Branscombe, Ellemers, Spears, & Doosje, 1999), and instead embrace social mobility beliefs as a means to compensate (Wright, Taylor, & Moghaddam, 1990). It may be that our results are driven by those participants who came into the study with a relatively positive view of their group (*Americans*) rather than indicating that *all* group members will respond by compensating with a group normative ideology. Nonetheless, having found substantial support for the threat-compensation-restoration process, future research can now address how differences in initial identification with a group affect both identification and ideological endorsement following a group-based control threat.

Another limitation to these studies concerns our choice of social group. The population of the U.S. is diverse and definitions of what it means to be *American* are likely to differ between different subgroups based upon ethnicity, gender, social class, so on (Sidanius & Pratto, 1999). Our theorizing assumes that identification with *Americans* increases endorsement of meritocracy based on the evidence that this ideology is normative in the U.S. However, different conceptions of the group may create unexplored variability in the ideologies people endorse in the wake of a group-based control threat. The majority of our sample population was White, and as a socially dominant group, Whites may feel both a greater ownership over the identity *Americans* (Molina, Phillips, & Sidanius, 2014; Sidanius & Petrocik, 2001) and may adhere to status quo enhancing beliefs like meritocracy more so than other ethnic groups within the United States (Sidanius & Pratto, 1999). While we believe that group-based control threats will generally increase identification and ideology endorsement, future research will be needed to extend this account to social identities that represent disenfranchised groups (e.g., women, Blacks) with potentially different normative ideologies.

Finally, while we observed increased endorsement of ideological beliefs following a threat to personal control, we did not measure any attitudes or behaviors directed at outgroups. This is an important question as previous work has shown that when the self is threatened based on group membership, group members may increase warmth and positive regard for one's ingroup and/or derogate outgroup members as a way of assuaging the threat (Branscombe, Schmitt, & Harvey, 1999; Huo & Molina, 2006). For instance when members of high status social groups experience threat based upon group membership, they may perceive the threat as coming from low status groups (Danbold & Huo, 2014; Outten, Schmitt, Miller & Garcia, 2012) and respond with greater discriminatory behaviors or attitudes that work to assuage the threat while maintaining or increasing social inequality.

Because derogation of outgroups is often based upon ideological beliefs about outgroup members (e.g., the stereotype that Blacks suffer economic inequality because of their lack of effort) it is plausible that the ideology-bolstering effects of identification after a group-based control threat may also affect perceptions of outgroup members.

### **Practical Implications**

The results from these studies provide evidence that in some cases, the way individuals compensate for threats to their personal control is contingent upon social identity processes. After a threat, individuals can affirm their commitment to the group and its perspective on social relations as a way to reaffirm their perceived ability to positively impact their social environment. Compensatory control theory has gone to great lengths testing which external sources people will turn to in response to threat, as well as the positive consequences that arise from this compensation (i.e., increased optimism over future action; Kay, Laurin, Fitzsimmons, & Landau, 2014). However, this theoretical perspective has neglected to look at how individuals compensate for *group-based* threats to their personal control, and whether those strategies are effective means of restoring perceived personal control.

We found that when individuals experience a threat to their personal control based upon their social group membership, individuals are drawn to the identity (and its ideologies) at the core of that threat. Importantly, we found that this is effective: By turning to the specific group and its beliefs underlying the threat, individuals effectively increased their perceptions of personal control.

While we focused primarily on this model as a point of psychological interest, the processes we identified likely extend to other identities and ideologies, including those that may further social justice. For example, in response to a group-based control threat, members of a union may more strongly identify with that group and strengthen their resolve to fight for



the union's collective interests. These possibilities speak to important connections between collective interests and action and individual level coping strategies which may promote or hinder the pursuit of those group interests.

This possibility is particularly important with respect to low status groups. Members of groups that are low in social status, stigmatized, underrepresented in positions of power, and discriminated against may frequently experience a lack of perceived personal control due to their subordinate status in society. If these group-based threats to control are met with beliefs that legitimize inequality, then personal control may be reaffirmed at the cost of maintaining unequal status relations. However, if individuals come to perceive the group-based threats to their control as illegitimate and subject to resistance, then increased identification with their group may promote adherence to ideologies that challenge the status quo (Haslam & Reicher, 2012; Reynolds, Jones, O'Brien, & Subasic, 2013). Just as group membership may be the reason that individuals have their personal control threatened, it may also be the avenue by which they compensate while increasing their beliefs in a social system that no longer withholds equality (Reynolds, Haslam, & Turner, 2012). By increasing our understanding of when and why individuals subscribe to certain ideologies, we can also increase our understanding of how these ideologies can be used for social change and the facilitation of social action (Dixon, Tropp, Durheim, & Tredoux, 2010; Wright & Lubensky, 2008).

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Table 1.

*Correlations, Means and Standard Deviations of Variables, Study 1b*

	1	2	3	4
1. Personal Control	-			
2. Self-certainty	.55**	-		
3. Collective Self-esteem	.12	.001	-	
4. National Identity	.21*	.14	.39**	-
Mean	5.22	5.24	4.40	4.45
Standard Deviation	0.88	0.95	1.13	1.31

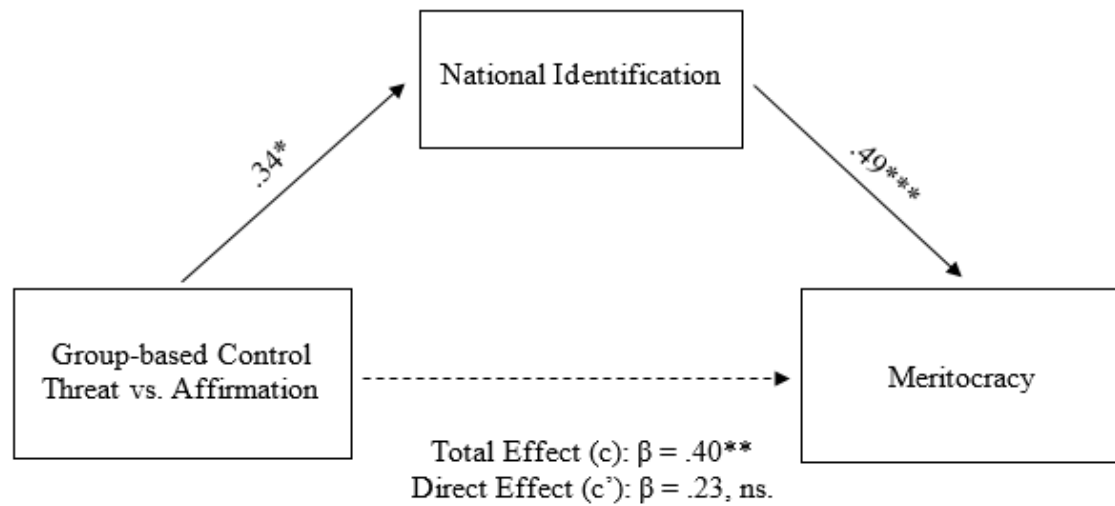
Note. \* $p < .05$ . \*\* $p < .01$ .

Table 2.

*Correlations, Means and Standard Deviations of Variables, Study 3*

	1	2	3	4	5	6
1. National Identity	-					
2. Gender Identity	.47**	-				
3. Religious Identity	.17	.18*	-			
4. Meritocracy	.43**	.16†	.19*	-		
5. Egalitarianism	-.24**	-.007	-.08	-.45**	-	
6. Personal Control	.25**	.33**	-.03	.49**	-.08	-
Mean	4.31	5.23	3.89	4.13	4.89	4.75
Standard Deviation	1.62	1.50	1.99	1.48	1.44	1.24

Note. † $p = .08$  \* $p < .05$ . \*\* $p < .01$ .

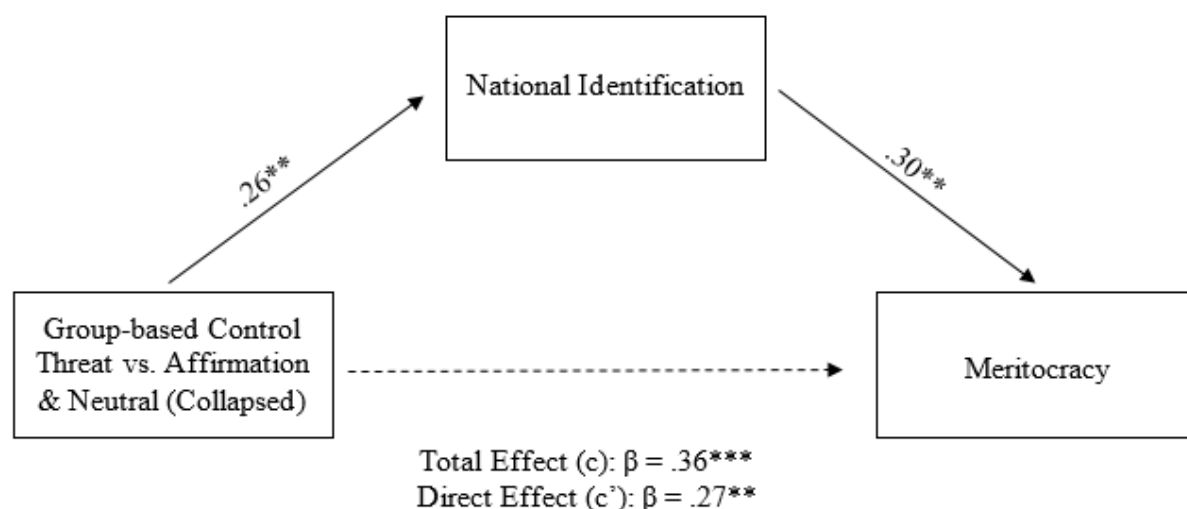


*Note.* The direct effect coefficient represents the effect of the independent variable after controlling for the effect of the proposed mediator.

Total adjusted  $R^2$  for the model = .34,  $F(2, 44) = 12.69$ ,  $p < .001$

\* Significant at  $p < .05$   
 \*\* Significant at  $p < .01$   
 \*\*\* Significant at  $p < .001$

Figure 1. Indirect effect of condition on meritocracy through national identification, Study 1b.

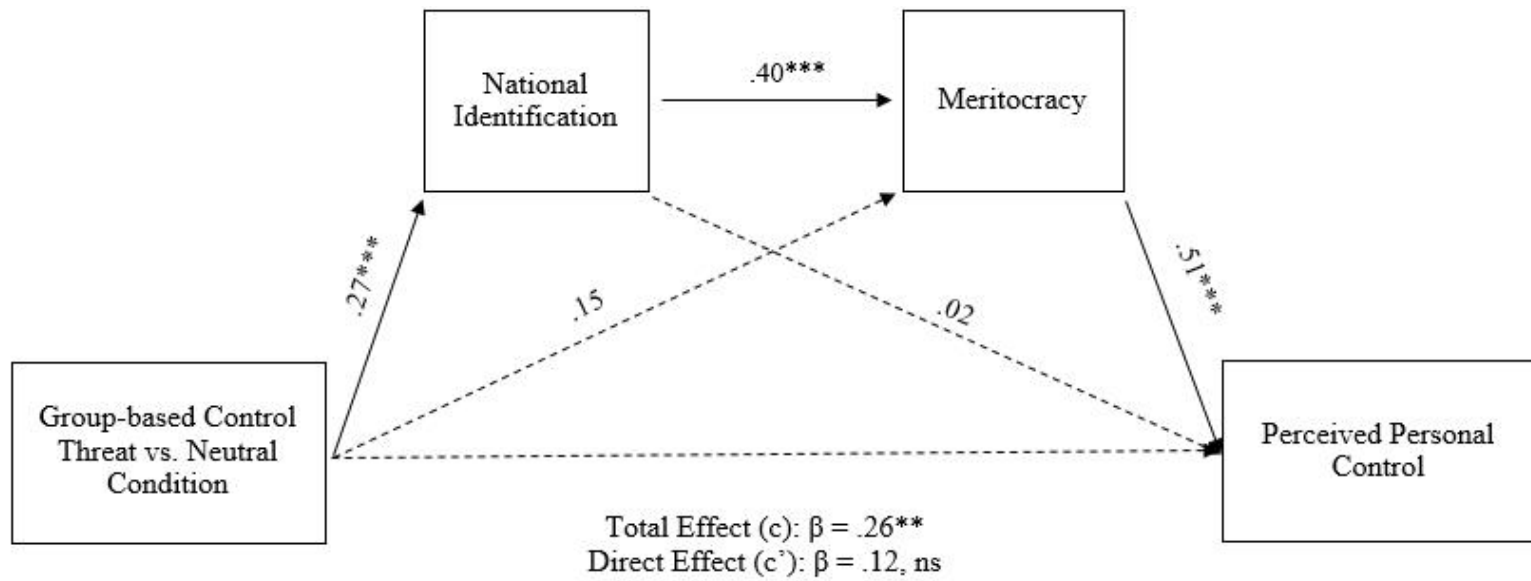


*Note.* The direct effect coefficient represents the effect of the independent variable after controlling for the effect of the proposed mediator.

Total adjusted  $R^2$  for the model = .19,  $F(2, 87) = 11.65, p < .001$

\* Significant at  $p < .05$   
 \*\* Significant at  $p < .01$   
 \*\*\* Significant at  $p < .001$

Figure 2. Indirect effect of condition on meritocracy through national identification, Study 2.



*Note.* The direct effect coefficient represents the effect of the independent variable after controlling for the effect of the proposed mediators. Dashed lines highlight non-significant relationships, and solid lines highlight significant relationships

Total adjusted  $R^2$  for the model = .30,  $F(3, 116) = 16.94$ ,  $p < .001$

\*Significant at  $p < .05$   
 \*\*Significant at  $p < .01$   
 \*\*\*Significant at  $p < .001$

Figure 3. Indirect effect of condition on perceived personal control through national identification and meritocracy, Study 3.